

CLAIMS

1. A nozzle arrangement adapted to be fitted to an outlet of a fluid supply and to generate a spray of fluid dispensed from said fluid supply during use, said nozzle arrangement having a body which comprises:-

- 5 (1) actuator means which is adapted, upon operation, to cause fluid to flow from said fluid supply into said nozzle arrangement;
- (2) an inlet through which fluid from said fluid supply accesses the nozzle arrangement during use;
- (3) one or more outlet orifices through which fluid is ejected from the
10 nozzle arrangement during use; and
- (4) an internal fluid flow passageway which connects said inlet to said one or more orifices;

wherein said internal fluid flow passageway comprises a first orifice-defining portion, and a flap having a second orifice-defining portion, said flap being
15 configured to be displaced by the flow of fluid through the internal passageway during use from a first position, in which said flap resides when the nozzle arrangement is not in use and wherein the first and second orifice-defining portions are disposed apart from one another, to a second position, in which said first and second orifice-defining portions are disposed proximate to one
20 another and together define an orifice through which the fluid passing through the nozzle arrangement must pass.

2. A nozzle arrangement according to claim 1, wherein the first orifice-defining portion is a portion of the body of the nozzle arrangement which defines the internal fluid flow passageway and is in the form of a recess or
25 internal wall which is adapted to receive the second orifice-defining portion of the flap when it is displaced into the second, orifice forming, position.

3. A nozzle arrangement according to claim 2 wherein the flap is connected to the side of the fluid flow passageway.
4. A nozzle arrangement according to claim 1 or 2 wherein the flap is position within a recess of the chamber wall.
- 5 5. A nozzle arrangement according to any preceding claim wherein the flap is connected to the body by a resilient mounting which permits the flap to move from the first position to the second, orifice defining, position by the pressure of fluid flowing through the internal passageway.
6. A nozzle according to any preceding claim wherein the flap is itself
10 resiliently deformable and is caused to bend from the first position to the second position by the flow of fluid through the nozzle arrangement, and then return to the first position once the fluid flow ceases.
7. A nozzle arrangement according to any preceding claim, wherein the second orifice defining portion of the flap is a freely movable end of the flap.
- 15 8. A nozzle arrangement according to any one of claims 1 to 6 wherein the second orifice defining portion is a semi-circular or otherwise shaped cut out portion or notch which together with the first orifice defining portion forms the orifice when the flap abuts the first orifice-defining portions.
9. A nozzle arrangement according to claim 7 or 8 wherein the orifice
20 defining portions define more than one orifice.
10. A nozzle arrangement according to any preceding claim wherein the size of the orifice is variable depending upon the pressure with which the fluid is forced through, reducing as higher pressures are applied.
11. A nozzle arrangement according to any preceding claim wherein the flap
25 forms a flow control mechanism and is resiliently deformable so that it can be

displaced from a first position in which the passageway is fully open to a second position in which the flap extends into and constricts the passageway in response to the pressure of the fluid flowing through the passageway during use, and return to the first position when the actuation ceases and the nozzle arrangement is not in use.

12. A nozzle arrangement according to claim 11 wherein the flap is configured so that the extent of its displacement between the first and second positions is dependent upon the pressure with which the fluid flows through the nozzle arrangement.

10 13. A nozzle arrangement according to claim 11, wherein the flap is configured to displace to its fullest extent once a predetermined minimum threshold pressure is exceeded.

14. A nozzle arrangement according to claim 1 wherein the flap is displaced into a tapered recess and the gap between the end of the flap is received in the recess, and the wall of the recess defines the aperture through which fluid may flow.

15 15. A nozzle arrangement according to any preceding claim wherein the orifice once formed is positioned upstream from an expansion chamber so as to form an orifice through which fluid can be sprayed into the chamber.

20 16. A nozzle arrangement according to any preceding claim wherein a body is composed of at least two interconnected parts, each part having an abutment surface, and grooves and recesses formed thereon which define the fluid flow passageway, and the parts are interconnected by a hinge to enable the parts to be moved towards or away from each other to enable cleaning to be effected.

25 17. A nozzle arrangement according to any preceding claim wherein two or more flaps are located in the passageway.

18. A nozzle arrangement according to claim 17 wherein said two or more flaps are arranged to access alternative flow passages.
19. A nozzle arrangement according to claim 17 wherein said two or more flaps provide for enhanced flow control.
- 5 20. A nozzle arrangement according to any preceding claim wherein the flap member is disposed downstream of the outlet orifice, and is effective to prevent back-flow of a second fluid which is mixed with a first downstream of the flap member.
- 10 21. A nozzle arrangement according to any preceding claim wherein the flap member is caused to vibrate by gas or liquor in a single or dual route nozzle to generate a sound signal to thereby break-up droplets.